PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Giuseppe Calarco et al.
Application No.	:	10/685,292
Filed	:	October 14, 2003
For	:	USER CONTROLLED DEVICE FOR SENDING CONTROL SIGNALS TO AN ELECTRIC APPLIANCE, IN PARTICULAR USER CONTROLLED POINTING DEVICE SUCH AS MOUSE OR JOYSTICK, WITH 3D-MOTION DETECTION

Examiner	:	Regina Liang
Art Unit	:	2629
Docket No.	:	851663.482
Date	:	July 27, 2009

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Commissioner for Patents:

This brief is in response to the Examiner's Answer, mailed May 26, 2009, and in furtherance to Appellants' Appeal Brief filed February 9, 2009, and Supplemental Brief filed April 8, 2009[1].

In this Reply Brief, Appellants wish to focus on an error of fact and an error of logic that the Examiner continues to maintain, and which are the basis for the rejection of each of the independent claims at issue[2]. These errors will be explained with reference to claim 1, which recites, in part:

> a body that is movable into a plurality of positions of a three-dimensional space; … and

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[1] Hereafter, *Supplemental Brief*.

[2] Claims 1, 16, 30, 36, 42, and 63.

> a microcontroller … configured to generate first control signals correlated to said positions, only while detected movements of said body are less than a speed of movement threshold ….

For context, it should be noted that claim 13 recites, "means for generating second control signals upon detecting movements of said device that are greater than said speed of movement threshold."

The Examiner points to the handheld device of the Bartlett reference[3] as corresponding to the body of claim 1, Bartlett's position commands as corresponding to the first control signals of claim 1[4], and Bartlett's gesture commands as corresponding to the second control signals of claim 13[5]. Referring first to the factual error, the Examiner maintains that the Bartlett reference teaches a speed of movement threshold, with reference to Figures 2a-2d[6], and that the device produces gesture commands only while movement of the device is greater than the threshold. For example, the Examiner points to Figures 2a-2d, each of which shows a time vs. angular orientation graph representing a respective exemplary gesture command, and argues that "if the quick movement of the handheld is not greater than the angular orientation about an axis of rotation during the time interval t_s-t_f …, no gesture command is detected and no gesture command is activated."[7]

While Appellants freely acknowledge that the respective gesture commands of Figures 2a-2d will not be detected unless the speed and amplitude of movement of the device substantially matches the pattern shown for the particular command, this is not the same as a speed of movement threshold below which no gesture command is detected. One skilled in the art would recognize that each of the gesture commands of Figures 2a-2d has a different speed (note the varying distance between t_s and t_f and the varying amplitude in each figure). Therefore, if the speed of movement of Bartlett's device is below the speed for the gesture command of Figure 2a, that does not mean that the user of Bartlett's device did not make any gesture command. Instead, the user may have made the gesture command of Figure 2c or any other gesture command that requires a slower speed. Furthermore, the commands of Figures 2a-2d are merely exemplary[8] and Bartlett explains that, apart from those shown, "a great variety of gesture commands are possible."[9] As such, Bartlett offers no suggestion that its gesture commands are limited to movements that exceed a particular speed of movement threshold, or that first control signals (position signals) are generated only while detected movements are less than such a speed of movement.

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[3] U.S. Patent 6,573,883, to Bartlett, hereafter, *Bartlett*.

[4] See Examiner's Answer Brief mailed May 26, 2009 (hereafter, *Answer Brief*), page 3.

[5] *Id.*, page 5.

[6] *Id.*, page 3, third and second lines from the bottom.

[7] *Id.*, page 14, last six lines. See, also, pages 3 (claim 1), 6 (claims 30 and 36), 7 (claims 16 and 63), and 10 (claim 42).

As to the error in logic, the Examiner argues that Bartlett's device is "configured to generate first control signals … correlated to the positions, only while detected movements of the body are less than a speed of movement threshold [because] no gesture command is detected [for movements below the threshold]."[10] This is an invalid syllogism, as demonstrated below.

A syllogism is a formal statement of logic, comprising three propositions: a major premise, a minor premise, and a conclusion. The major premise is typically a statement of a general rule, the minor premise a statement of a case, in which the subject of the major premise becomes the object, and the conclusion an application of the rule to the case, in which the object of the major premise is applied to the subject of the minor premise. An example of such a statement is as follows:[11]

1. Every **virtue** is laudable;
2. **Kindness** is a virtue;
3. Therefore, **kindness** is laudable.

To prove a negative, the object of the major premise is carried forward as the object of the minor premise, with a new subject, then in the conclusion, the subject of the major premise is applied to the object of the minor premise:

1. Every **virtue** is laudable;
2. **Avarice** is not laudable;
3. Therefore, **avarice** is not a virtue.

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[8] *Id.*, 4:13-30.
[9] *Id.*, 4:44, see, also, lines 30-44.
[10] *Answer Brief*, page 3, last paragraph. See, also, pages 10 and 13 *et seq*.
[11] For clarity, the subject of each proposition is in bold text, while the object is underlined.

In each case, if the first and second propositions are true, the third proposition is proven true by the logic of the construction, without the requirement of additional extrinsic support.

A common error is to misstate the syllogism by applying the negative formation to prove a positive, or vice-versa, which renders the conclusion invalid. For example,

1. Every **virtue** is laudable;
2. **Chocolate** is not a virtue;
3. Therefore, **chocolate** is not laudable.

Here, the positive construction is applied to attempt a negative proof. It can be seen that, even if both premises are accepted as true, the conclusion is not proven by the statement, but would require additional support to prove or disprove.

In the present case, to demonstrate that Bartlett's position commands correspond to the first control signals of claim 1, the Examiner's argument can be restated as follows:

1. Bartlett's **gesture commands** are generated only while detected movement exceeds a speed of movement threshold;
2. Bartlett's **position commands** are not gesture commands;
3. Therefore, Bartlett's **position commands** are not generated while detected movement exceeds the speed of movement threshold.

As in the previous example, the Examiner has applied a positive construction to attempt a negative proof, and so, even if, *arguendo*, both premises were accepted as being true, the conclusion is not proven true, but would require some other supporting facts or evidence, which the Examiner has not provided. On the other hand, in arguments presented in the previously filed Supplemental Brief, Appellants have amply shown that Bartlett's device generates position commands without reference to speed of movement thresholds[12], demonstrating that they cannot be regarded as corresponding to the first control signals of claim 1, which are generated "only while detected movements … are less than a speed of movement threshold."

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[12] See, e.g., *Supplemental Brief*, last paragraph of page 15 to first paragraph of page 17.

A. *Conclusion.*

In summary, the Examiner has failed to establish *prima facie* obviousness of the claims at issue. The Bartlett reference does not teach speed thresholds or limits on either its gesture commands or its position commands, and therefore cannot meet essential limitations in all of the claims. The remaining references do not correct Bartlett's deficiency. Appellants therefore respectfully request that the Examiner's rejection be reversed and that the claims be allowed for the reasons stated herein as well as the reasons in the Appeal Brief filed February 9, 2009, and Supplemental Brief filed April 8, 2009.

Respectfully submitted,
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